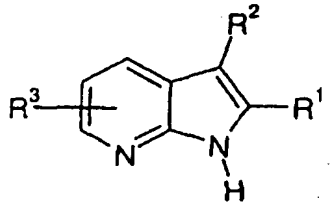
Claims

1. A compound of formula (I):



(I)

wherein:

R^1 represents phenyl or a five or six membered aromatic heterocyclic ring containing 1 to 3 heteroatoms selected independently from O, S and N; said phenyl or aromatic heterocyclic ring being optionally substituted by one or more substituents selected independently from halogen, C1 to 4 alkyl, C1 to 4 alkoxy, CO_2R^4 or a group –K-L-M;

K represents O, NR^{12} or a bond;

L represents C1 to 4 alkyl optionally further substituted by OH or OMe; or L represents a bond;

M represents $NR^{13}R^{14}$ or OR^{15};

R^{13} and R^{14} independently represent H or C1 to 4 alkyl; or the group $-NR^{13}R^{14}$ together represents a saturated 5 to 7 membered azacyclic ring optionally incorporating one further heteroatom selected from O, S and NR^{16};

R^{16} represents H, C1 to 4 alkyl or C2 to 4 alkanoyl;

R^2 represents a saturated or partially unsaturated 3 to 7 membered ring, optionally including 1 or 2 heteroatoms independently selected from O, N and $S(O)_n$ and optionally incorporating 1 or 2 carbonyl groups; and optionally substituted by halogen, OH, C1 to 4 alkyl, C1 to 4 alkoxy, CHO, C2 to 4 alkanoyl, C1 to 4 alkylsulphonyl, CO_2R^5, $C(Z)NR^{17}R^{18}$ or pyrrolidine-2,5-dione; said C1 to 4 alkylsulphonyl group being optionally further substituted by 1H-isoindole-1,3(2H)-dione;

Z represents O or S;

R^{17} and R^{18} independently represent H or C1 to 4 alkyl; or the group $-NR^{17}R^{18}$ together represents a saturated 5 to 7 membered azacyclic ring optionally incorporating one further heteroatom selected from O, S and NR^{19};

R^3 represents H, halogen, C1 to 4 alkyl, C1 to 4 alkoxy or cyano;

R^4, R^5, R^{12}, R^{15} and R^{19} independently represent H or C1 to 4 alkyl;

n represents an integer 0, 1 or 2;

and pharmaceutically acceptable salts thereof.

2. A compound according to Claim 1 wherein R^3 represents halogen or methyl.

3. A compound according to Claim 1 or Claim 2 wherein K represents O.

4. A compound of formula (I), according to any one of Claims 1 to 3, which is: {3-[4-(5-chloro-3-cyclopropyl-1*H*-pyrrolo[2,3-*b*]pyridin-2-yl)phenoxy]propyl}dimethylamine;

{3-[4-(5-chloro-3-cyclohex-1-en-1-yl-1H-pyrrolo[2,3-b]pyridin-2-yl)phenoxy]propyl}dimethylamine;

tert-butyl 3-(2-{4-[3-(dimethylamino)propoxy]phenyl}-5-methyl-1*H*-pyrrolo[2,3-*b*]pyridin-3-yl)piperidine-1-carboxylate;

2-(2-furyl)-5-methyl-3-piperidin-3-yl-1*H*-pyrrolo[2,3-*b*]pyridine;

3-[2-(2-furyl)-5-methyl-1*H*-pyrrolo[2,3-*b*]pyridin-3-yl]piperidine-1-carboxamide;

5-chloro-3-piperidin-4-yl-2-(1*H*-pyrrol-3-yl)-1*H*-pyrrolo[2,3-*b*]pyridine;

tert-butyl 4-(5-chloro-2-{4-[3-(dimethylamino)propoxy]phenyl}-1*H*-pyrrolo[2,3-*b*]pyridin-3-yl)piperidine-1-carboxylate;

{3-[4-(5-chloro-3-piperidin-4-yl-1*H*-pyrrolo[2,3-*b*]pyridin-2-yl)phenoxy]propyl}dimethylamine;

[3-(4-{5-chloro-3-[1-(methylsulfonyl)piperidin-4-yl]-1*H*-pyrrolo[2,3-*b*]pyridin-2-yl}phenoxy)propyl]dimethylamine;

4-(5-chloro-2-{4-[3-(dimethylamino)propoxy]phenyl}-1*H*-pyrrolo[2,3-*b*]pyridin-3-yl)piperidine-1-carbaldehyde;

4-(5-chloro-2-{4-[3-(dimethylamino)propoxy]phenyl}-1*H*-pyrrolo[2,3-*b*]pyridin-3-yl)piperidine-1-carboxamide;

3-(2-{4-[3-(dimethylamino)propoxy]phenyl}-5-methyl-1*H*-pyrrolo[2,3-*b*]pyridin-3-yl)-*N*,*N*-dimethylpiperidine-1-carboxamide;

3-(2-{4-[3-(dimethylamino)propoxy]phenyl}-5-methyl-1*H*-pyrrolo[2,3-*b*]pyridin-3-yl)-*N*-isopropylpiperidine-1-carboxamide;

dimethyl[3-(4-{5-methyl-3-[1-(pyrrolidin-1-ylcarbonyl)piperidin-3-yl]-1*H*-pyrrolo[2,3-*b*]pyridin-2-yl}phenoxy)propyl]amine;

[3-(4-{3-[1-(isopropylsulfonyl)piperidin-3-yl]-5-methyl-1*H*-pyrrolo[2,3-*b*]pyridin-2-yl}phenoxy)propyl]dimethylamine;

(3-{4-[3-(1-acetylpiperidin-3-yl)-5-methyl-1*H*-pyrrolo[2,3-*b*]pyridin-2-yl]phenoxy}propyl)dimethylamine;

3-(2-{4-[3-(dimethylamino)propoxy]phenyl}-5-methyl-1*H*-pyrrolo[2,3-*b*]pyridin-3-yl)-*N*-methylpiperidine-1-carbothioamide;

2-(2-{[3-(2-{4-[3-(dimethylamino)propoxy]phenyl}-5-methyl-1*H*-pyrrolo[2,3-*b*]pyridin-3-yl)piperidin-1-yl]sulfonyl}ethyl)-1*H*-isoindole-1,3(2*H*)-dione;

3-[3-(2-{4-[3-(dimethylamino)propoxy]phenyl}-5-methyl-1*H*-pyrrolo[2,3-*b*]pyridin-3-yl)piperidin-1-yl]pyrrolidine-2,5-dione;

dimethyl[3-(4-{5-methyl-3-[1-(methylsulfonyl)piperidin-3-yl]-1*H*-pyrrolo[2,3-*b*]pyridin-2-yl}phenoxy)propyl]amine;

5-bromo-2-(4-methoxy-phenyl)-3-piperazin-1-yl-1H-pyrrolo[2,3-b]pyridine;

5-bromo-2-(4-methoxyphenyl)-3-(4-methylpiperazin-1-yl)-1H-pyrrolo[2,3-b]pyridine;

4-[5-bromo-2-(4-methoxy-phenyl)-1H-pyrrolo[2,3-b]pyridin-3-yl]-piperazine-1-carboxylic acid tert-butyl ester;

5-bromo-2-phenyl-3-morpholin-4-yl-1H-pyrrolo[2,3-*b*]pyridine;

5-bromo-3-(4-methanesulfonylpiperazin-1-yl)-2-(4-methoxy-phenyl)-1H-pyrrolo[2,3-b]pyridine;

4-[5-bromo-2-(4-methoxy-phenyl)-1H-pyrrolo[2,3-b]pyridin-3-yl]-piperazine-1-carbaldehyde;

or a pharmaceutically acceptable salt of any one thereof.

5. A compound of formula (I), according to Claim 1, or a pharmaceutically acceptable salt thereof, for use as a medicament.

6. A pharmaceutical formulation comprising a compound of formula (I), as defined in any one of Claims 1 to 4, or a pharmaceutically acceptable salt thereof, optionally in admixture with a pharmaceutically acceptable diluent or carrier.

7. A method of treating, or reducing the risk of, a human disease or condition in which inhibition of Itk kinase activity is beneficial which comprises administering to a person suffering from or susceptible to such a disease or condition, a therapeutically effective amount of a compound of formula (I), as defined in any one of Claims 1 to 4, or a pharmaceutically acceptable salt thereof.

8. The use of a compound of formula (I) as defined in any one of Claims 1 to 4, or a pharmaceutically acceptable salt thereof, in the manufacture of a medicament for the

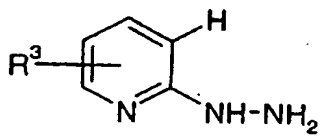
treatment or prophylaxis of human diseases or conditions in which inhibition of Itk kinase activity is beneficial.

9. The use according to Claim 8 wherein the disease is asthma.

10. The use according to Claim 8 wherein the disease is allergic rhinitis.

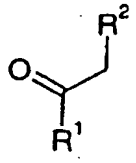
11. A process for the preparation of a compound of formula (I), as defined in any one of Claims 1 to 4, and optical isomers and racemates thereof and pharmaceutically acceptable salts thereof, which comprises:

a) reaction of a compound of formula (II):



(II)

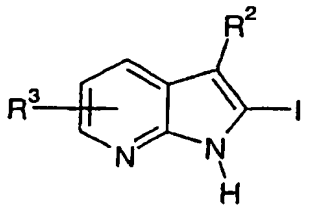
in which R^3 is as defined in Claim 1, with a compound of formula (III):



(III)

in which R^1 and R^2 are as defined in Claim 1; or

b) arylation of a compound of formula (IV)



(IV)

wherein R^2 and R^3 are as defined in Claim 1, with a boronic acid of formula R^1-$B(OH)_2$ wherein R^1 is as defined in Claim 1;

and where desired or necessary converting the resultant compound of formula (I), or another salt thereof, into a pharmaceutically acceptable salt thereof; or converting one compound of formula (I) into another compound of formula (I); and where desired converting the resultant compound of formula (I) into an optical isomer thereof.